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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

re Application of:

Jaron Z. Lanier, et al.

Serial No. 09/217,595

Filed: December 22, 1998

For: **METHOD AND SYSTEM FOR  
GENERATING OBJECTS FOR A  
MULTI-PERSON VIRTUAL  
WORLD USING DATA FLOW  
NETWORKS**

§ Group Art Unit: 2183  
§  
§ Examiner: Treat, William M.  
§  
§ Atty. Dkt. No.: 5181-10802  
§  
§

**CERTIFICATE OF MAILING**  
**37 C.F.R. § 1.8**

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April 21, 2003  
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Signature

**REPLY BRIEF**

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Sir/Madam:

In response to the Examiner's Answer mailed January 29, 2002, Appellants present this Reply Brief. Appellants respectfully request that this reply brief be entered pursuant to 37 C.F.R. § 1.193(b)(1) and considered by the Board of Patent Appeals and Interferences.

**GROUPING OF CLAIMS**

In his Answer, the Examiner disagrees that claims 31-94 do not stand or fall together. Claims 31-94 each stand or fall separately because each claim must be

separately analyzed to determine whether or not it is broader than the patent claims, whether or not it recaptures surrendered subject matter, and whether or not it has been materially narrowed in other respects to avoid the recapture rule. Since the Examiner has not specifically met his burden of explaining how each step of the three-step recapture rule test is satisfied for each separate claim, as further discussed below, Appellants assert that each of claims 31-94 stands or falls separately. In his Answer, the Examiner states that Appellants have not provided any authority in this regard. However, it is well settled that the burden to show the unpatentability of each claim falls on the Examiner, not the Applicant. Since each claim is presumed patentable until the Examiner meets his burden, noting that the Examiner has failed to meet this burden for each claim does indeed establish a reason why each claim is separately patentable in regard to the requirement under 37 CFR § 1.192(c)(7).

### **REPLY TO EXAMINER'S ANSWER**

#### **1. Claims 1-30**

Claims 1-30 correspond to claims 1-30 of the patent (5,588,139) for which reissue is sought. Appellants assert that the reissue declaration properly states errors by which the patentees claimed less than they had a right to claim in the original patent and that these errors arose without deceptive intent. As shown below, the new claims submitted to address these errors do not impermissibly recapture surrendered subject matter. Thus, the reissue declaration states errors properly correctable through reissue and claims 1-30 should be allowed.

#### **2. Claims 31-94**

The Examiner rejected claims 31-94 under 35 U.S.C. § 251 and the recapture rule. The Examiner's reasons for applying the recapture rule can be found on pp. 2-6 of the Office Action of September 5, 2002, and pp. 3-4 of the current Examiner's Answer. In

light of the following remarks, and in light of the remarks in Appellants' original Reply Brief which are herein incorporated by reference, Appellants assert that the Examiner has incorrectly applied the recapture rule and has failed to state a *prima facie* rejection for each claim.

**First, Appellants assert that none of the claims impermissibly recapture surrendered subject matter.** The Federal Circuit recently clarified that "application of the recapture rule is a three-step process." *Pannu v. Storz Instruments, Inc.*, 59 USPQ2d 1597, 1600 (Fed. Cir. 2001). When performing the first step of the three-step process of applying the recapture rule, the reissue application claims are compared to the patent claims to determine what aspects of the claims have been broadened. *Id.*; *Clement*, 45 USPQ2d at 1164. However, when performing the second step in applying the recapture rule to determine if surrendered subject matter is now being claimed, the reissue application claims are compared to the surrendered claims (i.e. the claims prior to cancellation or amendment during the original prosecution). *Hester Indus., Inc. v. Stein, Inc.*, 46 USPQ2d 1641, 1649 (Fed. Cir. 1998); *Clement*, 45 USPQ2d at 1164-65; *Ball*, 221 USPQ at 295-96; *In re Richman*, 161 USPQ 359, 362-63 (C.C.P.A. 1969) ("The question raised is whether the appealed claims are of the same scope as the cancelled claims, not whether they lack some specific recitation absent from the cancelled claims but included in the patent claims.").

The Examiner has incorrectly applied the recapture rule by comparing the claims of the reissue application to the amended claims from the original application. The Examiner's approach is evident at pp. 3-6 of the Office Action of September 5, 2002 and at pp. 5-8 of the Examiner's Answer where the Examiner compares the claims of the reissue application to the amended claims from the original application that became the patent claims. Also, on p. 16 of his Answer, the Examiner states that "he views the full scope of the language of appellant's patented claims to constitute surrendered subject matter." However, as Judge Rich stated in *Richman*, the question is whether the claims of the reissue application are of the same scope as the cancelled claims (i.e. the claims

before they were amended for patentability), not whether they lack some specific recitation absent from the cancelled claims but included in the patent claims. The Examiner's statement on p. 16 of his Answer that the full scope of the patent claims is surrendered subject matter is clearly at odds with the recapture rule as repeatedly and consistently stated by the courts.

Thus the correct claims for comparison when determining if an attempt to recapture subject matter is being made, are represented by claims 1, 26 and 30 of the original application prior to the amendment of March 8, 1996. Thus, the surrendered claims are as follows:

1. A simulating apparatus comprising:  
modeling means for creating a model of a physical environment in a computer database;  
first body sensing means, disposed in close proximity to a part of a first body, for sensing the physical status of the first body part relative to a first reference position;  
second body sensing means, disposed in close proximity to a part of a second body, for sensing the physical status of the second body part relative to a second reference position;  
first body emulating means, coupled to the first body sensing means, for creating a first cursor in the database, the first cursor emulating the physical status of the first body part;  
first integrating means, coupled to the modeling means and to the first emulating means, for integrating the first cursor with the model;  
second body emulating means, coupled to the second body sensing means, for creating a second cursor in the database, the second cursor emulating the physical status of the second body part; and  
second integration means, coupled to the modeling means and to the second body emulating means, for integrating the second cursor with the model.

26. A simulating apparatus comprising:  
a modeling means for creating a virtual world model of a physical environment in a computer database;  
a first sensor for sensing a first real world parameter;  
first emulating means, coupled to the first sensor for emulating a first virtual world phenomenon in the virtual world model;  
a second sensor for sensing a second real world parameter; and  
second emulating means, coupled to the second sensor, for emulating a second virtual world phenomenon in the virtual world model.

30. A simulating method, comprising the steps of:  
creating a virtual environment;  
defining nodes of virtual objects within the virtual environment;  
inputting data from sensors worn on bodies of at least two users;  
converting the inputted data to position and orientation values;  
associating the position and orientation data with said nodes;  
determining view points of said users;  
receiving a synchronization signal;  
calculating an image frame for each eye of each of said users;  
displaying the image frames to each of said eyes of said users;  
obtaining updated position and orientation values of said users;  
determining if the virtual environment has been modified;  
redefining the virtual object nodes if the virtual environment has  
been modified;  
recalculating the image frames for each of said eyes of said users;  
and  
displaying the recalculated image frame to each of said eyes of said  
users.

Appellants are clearly not attempting to recapture the surrendered claims. All of the independent claims of the present reissue application are materially narrower than the surrendered claims, and the aspects by which they are broader than the surrendered claims are not material. “[I]f the reissue claim is narrower in an aspect germane to the prior art rejection, and broader in an aspect unrelated to the rejection, the recapture rule does not bar the claim.” *Clement*, 45 USPQ2d at 1165. See also, *Ball*, 221 USPQ 289; *In re Wadlinger*, 181 USPQ 826 (C.C.P.A. 1974); *Richman*, 161 USPQ 359; *In re Willingham*, 127 USPQ 211 (C.C.P.A. 1960).

The present reissue claims do not present a typical recapture scenario, such as in *Clement* or *Mentor*, where the reissue claims seek to revert back to the language of the surrendered claim without otherwise materially narrowing the claim. Instead, the present reissue claims present a situation similar to the reissue claims in *Ball*, *Wadlinger*, *Richman* and *Willingham* where the reissue claims were materially more narrow than the surrendered claim and thus held to not be subject to the recapture rule. For example, all of the independent claims in the present reissue application include the material limitation of emulating a body in a three-dimensional environment by changing one or more

attributes of a cursor, wherein the cursor comprises a plurality of nodes configured as a point hierarchy. This limitation is similar to the limitation that was argued by Applicants in the amendment of March 8, 1996 after which the application was allowed. Thus, this limitation is clearly material to the original rejection and all of the reissue application claims are clearly more narrow than the surrendered claims in this material aspect.

The Examiner's main point of confusion is his assertion that this limitation must be exactly the same as it appeared in the original amendment of March 8, 1996. The Examiner is clearly in error on this point. To avoid recapture, the reissue claims only need be narrower in an aspect "germane to the prior art rejection." *Clement*, 45 USPQ2d at 1165. "Germene" does not mean "exactly the same" as contended by the Examiner. As Judge Rich stated in regard to recapture in *Richman*, 161 USPQ at 363: "Certainly one might err without deceptive intention in adding a particular limitation where a less specific limitation regarding the same feature, or an added limitation relative to another element, would have been sufficient to render the claims patentable over the prior art."

At pp.14-15 of his Answer, the Examiner criticizes Appellants' argument as based on "some dictum and their interpretation of a 1940 decision by the Patent Office Board of Appeals *Ex Parte Lumbard*, 47 USPQ 523." The Examiner cites the "more recent 1956 decision of the Court of Customs and Patent Appeals (*In re Byers*, 43 CCPA 803, 109 USPQ 53 (CCPA 1956))." The Examiner quotes a portion of the case in which the Court notes "the limiting amendment which was of such a nature to bar allowance in the reissue application of the claims here on appeal." However, the *Byers* Court's application of the recapture rule is entirely consistent with Appellants' arguments. In the section cited by the Examiner, the *Byers* Court is explaining that amendment of a claim to obtain allowance bars recapture of the unamended claim regardless of whether or not there were broader claims also cancelled in the original application. The *Byers* Court states: "It is evident that since the deliberate cancelation of a claim in order to obtain a patent constitutes a bar to the obtaining of the same claim by reissue, it necessarily also constitutes a bar to the obtaining of a claim which differs from that canceled only in being

broader." *In re Byers*, 109 USPQ 53, 56 (CCPA 1956). This is entirely consistent with Appellants statement of the recapture rule. The recapture rule bars the obtaining of a claim which is the same as or broader than a claim canceled from the original application to obtain allowance. Thus, *Byers* supports Appellants' argument that the Examiner erred in finding recapture based on comparing the reissue claims to the patent claims, when he should have compared the reissue claims to the cancelled claims (i.e. original claims prior to amendment).

Note also that *Byers* discusses the *Lumbard* decision. While *Byers* distinguishes from *Lumbard* based on the particular facts of each case, the *Byers* Court does not disagree with the holding in *Lumbard* that the recapture rule does not apply to claims of an intermediate scope between the patent claims and the cancelled claims. *Byers* at 56-57.

The Examiner also seems to imply on p. 14 of his Answer that the portions of other cases relied on by Appellants are merely dictum. However, Appellants' statement of the recapture rule is based directly on the holding of numerous recent cases. *Pannu*, *Clement*, *Ball*, *Mentor*, *Wadlinger*, *Richman* and *Willingham*, for example, all apply the recapture rule exactly as argued by Appellants in ways central to their respective holdings. Appellants have cited specific portions of all of these cases that directly supports Appellants' position. Other than his misplaced reliance on *Byers*, the Examiner has not cited a single reference to support his position.

Appellants reissue claims are materially narrower than the surrendered claims. Thus, the recapture rule does not apply. The aspects by which the reissue application claims are broader than the surrendered claims are not material to the rejection in the original application. For example, some of the reissue application claims are broader than the surrendered claims in that they are presented in a method format, computer-readable medium format or kit format as opposed to an apparatus format. However, a change in claim format is not considered to be a material difference. M.P.E.P. § 1412.02. Also, some of the reissue claims refer to processing data from body sensors as opposed to

the body sensing means of original claim 1. However, this claim element was never material to overcoming the rejection during the original prosecution. No aspect of the “body sensing means” was argued to distinguish from the prior art. Since Applicants made no admission that any aspect of the “body sensing means” was required to overcome the rejection, the recapture rule does not apply. *Seattle Box*, 221 USPQ at 574. Similarly, some of the reissue claims refer to positioning the cursors within the virtual environment and integrating the cursors into a database for the virtual environment, as opposed to the modeling means and integrating means of original claim 1. But again, these elements were never at issue in the original prosecution. As discussed above, in regard to the claim elements that were germane to the rejection, the reissued claims are narrower than the surrendered claims. Therefore, the reissue application claims fall directly into the “(3)(b)” category stated in *Clement* where “if the reissue claim is narrower [than the surrendered claims] in an aspect germane to the prior art rejection, and broader in an aspect unrelated to the rejection, the recapture rule does not bar the claim.” *Id.* at 1165.

Even if some other limitation found in the surrendered claims were material, the absence or broadening of such a limitation in the reissue claims does not invoke the recapture rule because all of the reissue claims have been materially narrowed by inclusion of the material limitation discussed above (emulating a body in a three-dimensional environment by changing one or more attributes of a cursor, wherein the cursor comprises a plurality of nodes configured as a point hierarchy). “Reissue claims that are broader in certain aspects and narrower in others may avoid the effect of the recapture rule.” *Mentor*, 27 USPQ2d at 1525. For example, in *Ball* the reissue claims omitted the specific limitation that had originally been added to the claim at the Examiner’s suggestion to obtain allowance. *Id.* at 291-93. However, the reissue claims were narrowed in another material aspect such that the Federal Circuit held that the recapture rule did not apply even though the very limitation used to obtain allowance in the original application had been removed from the reissue claims. *Id.* at 295-96; see also *Richman* at 363.

Second, Appellants assert that the Examiner has failed to state a *prima facie* rejection for each claim according to the recapture rule. “Application of the recapture rule is a three-step process.” *Pannu*, 59 USPQ2d at 1600. The first step is to “determine whether and in what ‘aspect’ the reissue claims are broader than the patent claims.” *Id.* “The second step is to determine whether the broader aspects of the reissue[] claim relate[] to surrendered subject matter.” *Id.* Finally, it must be determined whether the reissue claims are materially narrower in other respects to avoid the recapture rule. *Id.* As stated in section 1412.02 of the MPEP, “the Examiner must first review each claim for the presence of broadening.” MPEP § 1412.02 indicates that the recapture rule must be applied to each claim. However, in his rejection the Examiner only referred to the “emulate the first body...” and “emulate the second body...” elements found in some of Appellants’ independent claims. For none of the claims did the Examiner identify how each step of the recapture rule was met. The Examiner only made vague references to broadening and did not identify the specific broader aspects. Nor does the Examiner explain for each claim how any broader aspects relate to surrendered subject matter. Instead the Examiner merely makes a bald assertion that material limitations from claims 1, 26 and 30 of the patent have been dropped in claims 31-94. Finally, the Examiner failed to properly apply the third step of the recapture rule by failing to analyze for each claim whether the reissue claims were materially narrowed so as to avoid the recapture rule. In order to establish a *prima facie* rejection based on the recapture rule, the Examiner must explain how all three steps of the recapture rule are meet for each claim, including each dependent claim

In summary, the Examiner appears to have primarily erred by comparing the reissue application claims to the patent claims in determining whether surrendered subject matter is being recaptured. *See, e.g.*, February 1, 2000 Office Action, p. 4, paragraph 7. As noted above, the reissue claims are properly compared to the patent claims to determine what aspects have been broadened, but when determining whether the broadened aspects seek to recapture surrendered subject matter, the reissue claims are

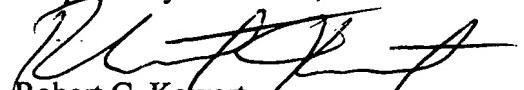
compared to the surrendered claims (i.e. the claims prior to cancellation or amendment during the original prosecution), not the patent claims. As discussed above, when properly compared to the surrendered claims, it is clear the reissue claims do not seek to recapture surrendered subject matter and are materially narrower than the surrendered claims. The Examiner further erred in not providing a separate analysis of the recapture rule for each individual claim, including the dependent claims.

### CONCLUSION

For the foregoing reasons, it is submitted that the Examiner's rejection of claims 1-94 was erroneous, and reversal of the Examiner's decision is respectfully requested.

This Reply Brief is submitted in triplicate along with a return receipt postcard.

Respectfully submitted,



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